

Monday Afternoon Poster Sessions

Nov. 6, 2017

(Time: 12:40 p.m. - 2:20 p.m.)

Room: Poster

Poster Session (Nov. 6, 2017)

Subject A: 2D Materials and Its Interfacial Properties

Poster No.	Abstract No.	Title	Presenting Author
PA-001	1052	The Synthesis of the Novel Fe ₃ O ₄ @Void@Ag Yolk-Shell Nanostructures from the Fe ₃ O ₄ @Carbon@Ag Core-Shell Nanoparticles	Di Liu
PA-002	1368	Effects of Processing Parameters on Dispersion of Graphene Reinforced Aluminum Matrix Composites	Haris Rudianto
PA-003	1406	Experimental Fermi Level Pinning of Monolayer MoS ₂ and MoTe ₂	Changsik Kim
PA-004	1444	2 Dimensional Black Phosphorus Embedded In Hexagonal Boron Nitride	Myeongjin Lee
PA-005	1564	Measurement of Diffusion Coefficient of Ceramic Powder Sintered on Metal Surface and Analysis of the Interface Behavior.	Sangwoo Yoon

Subject B: 3D Printing and Additive Manufacturing Technology

Poster No.	Abstract No.	Title	Presenting Author
PA-006	1273	Fabrication of Free Form Tool Electrode for Ecm Using 3D Printing	Ki Gwon Kim
PA-007	1314	Enhancement in the Mechanical Properties of Printed Ti-6Al-4V Alloys by Selective Laser Melting after Post Heat Treatments	Chun-Ming Chang
PA-008	1315	Fabrication of Selective-Laser-Melted Ti-6Al-4V Alloys with Various Built Directions: Comparisons of Microstructural and Textural Characteristics between As-built and Heat-treated Samples	Chun-Ming Chang
PA-009	1470	Ceramic Additive Manufacturing Based on Multi-functional stereolithography and material extruding system	Aram Sung
PA-010	1488	Effect of Hypertrophic Injury on 3D Printing Treatment Using Biocompatible Substances	Yong Hwan Kim
PA-011	1563	Light-weight Design and Strength of Sand-Polymer Composites Using Binder-Jet 3D Printing	Jin Ju Bae

Subject C: Adhesion Properties of Hybrid Interfaces

Poster No.	Abstract No.	Title	Presenting Author
PA-012	1029	Effect of CNT/CNF Volume Fraction on Wear Properties of Hybrid CNF+CNT/AS52 Mg Matrix Composites	Namhun Jung
PA-013	1130	Effects of Nanostructured Hydrophilic Block Copolymer/epoxy Blends on Adhesion Properties	Yeonah Jo
PA-014	1323	Epoxy Toughening from Core-Shell Structured Star Polymers as Effective Additives	Junsoo Moon
PA-015	1328	Amphiphilic Core-Shell Bottlebrush Polymers as Unimolecular Additives for Epoxy Toughening	Hyunjoo Kim
PA-016	1396	Adhesion Properties of Pressure-Sensitive Adhesives on Various Surface Treated Steel Sheets	Ara Cho
PA-017	1560	Analysis of Mass Diffusion in Metal Composites and its Effect on Mechanical Properties	Ji Hun Kim

Subject D: Atomic Scale Engineering of Interfaces

Poster No.	Abstract No.	Title	Presenting Author
PA-019	1404	Topological Defect Control in Ferroelectric Nanoplates	Kwang-Eun Kim
PA-020	1407	Exploring Ferroelectric Domain Structures in Nanopillars	Jeong Yong Kim

Subject E: Computational Modeling and Simulation of Material Interfaces

Poster No.	Abstract No.	Title	Presenting Author
PA-021	1012	First Principles Study of Thermodynamic Stability for the Interfacial Structure of LiMn ₂ O ₄ Cathode and Carbonate Electrolyte in Li-Ion Battery	Daehyeon Choi
PA-022	1070	Weakening of Bond Strength by Charge	Jeong Woo Yang
PA-023	1096	Numerical Analysis for RF Thermal Plasma for Nanoparticle Synthesis	Sooseok Choi
PA-024	1097	Numerical Simulation of 3-Dimensional Temperature Distribution in a HFCVD Equipment Considering Radiative Heat Transfer	Yong Hee Lee
PA-025	1102	CO Oxidation Over an MoS ₂ -Supported Au Cluster: Vacancy Formation and Tensile Strain Effects	Soonho Kwon
PA-026	1104	Mechanism of Adhesion of Bisphenol a Diglycidyl Ether (BADGE) on the Fe (100) and Fe ₂ O ₃ (0001) Surface	Ji Hye Lee
PA-027	1105	Analysis of Stress-strain Behavior Based on Carbon Nanotube/PAN Composites Using Molecular Dynamics Simulation Study	So Jeong Heo
PA-028	1110	Prediction of Interdiffusion-induced Phase Transformation at Interface of Nb-Ti and Nb-C	Doosun Hong
PA-029	1127	First-principles Based Computational Study on Nucleation and Growth Mechanisms of U on Mo(110) Surface Solvated in an Eutectic LiCl-KCl Molten Salt	Choah Kwon
PA-030	1128	First Principles Computational Study on Hydrolysis of Hazardous Chemicals Phosphorus Trichloride and Oxochloride (PCl ₃ and POCl ₃) Catalyzed by Molecular Water Clusters	Hyunwook Jung
PA-031	1131	First Principles Computational Study on Adsorption Mechanism of Organic Methyl Iodide gas in Triethylenediamine Impregnated Activated Carbon	Hoje Chun
PA-032	1163	Self-assembled Nitrogen-doped Fullerenes and Their Catalysis for Fuel Cell and Rechargeable Metal-Air Battery Applications	Jeemin Hwang
PA-033	1241	Computational design of 2D Covalent Metal Catalysts: A New Domain of Electrochemical CO ₂ Conversion	Yoonhoo Ha
PA-034	1313	Thermodynamic Analysis on The Aging of ZPP (Zirconium Potassium) And THPP (Titanium Hydride Potassium Perchlorate) Igniters	Ki Heon Eom
PA-035	1397	Equivalent Material Properties of Hierarchical Microstructure Models of Dual-phase Metal-ceramic Composites	Jin-Rae Cho
PA-036	1438	Silicon Edge Passivation as a Stabilization Method of Zigzag Graphene Nanoribbons	Juho Lee
PA-037	1450	Predictions on Thermally Equilibrated PEDOT:PSS Structure using Molecular Dynamics Simulation	Woong Kee Kim
PA-038	1456	Direct Determination of Magnetic Domain of Fe-based Amorphous Alloy	Hyunjong Lee
PA-039	1466	Investigation for a Way of Improving Thermoelectric Properties on Moly Disulfide Forming Carbon Nanocomposites Thin Films; First Principle Approach.	Sujee Kim
PA-040	1485	Disordered Ferroelectricity in the PbTiO ₃ /SrTiO ₃ Superlattice Thin Film	Gi-Yeop Kim
PA-041	1495	Direct Visualization of Ferroelastic Structure in Tungsten Oxide Thin Film	Kyung Song
PA-042	1568	Modeling and Experiments of Stress-induced defects in Cu Interconnect for Sub-10nm Node	Dong-Hyun Kim
PA-043	1573	Unlimited Layer-by-layer Oxidation of HfS ₂ for HfS ₂ /HfO ₂ Hybrid Heterostructure: A First-principles Study	Seongjae Byeon

Subject F: Dry Process (Atm., Vacuum Plasma Coatings, Melting spray, etc.)

Poster No.	Abstract No.	Title	Presenting Author
PA-044	1058	ALD-TiN Protective Coatings for Metallic Bipolar Plates of PEMFC	Mahdi Ilka
PA-045	1075	Influence of Nitrogen Partial Pressure on Microstructure and Tribological Properties of Mo-Cu-V-N Composite Coatings	Haijuan Mei
PA-046	1083	Plasma Induced Dewetting Behavior	Soon Won Park
PA-047	1094	Development of Soft Coating Process for Titanium Dioxide Film on Fiber Materials by Using of Atmospheric Pressure Plasma Jet	Rena Tabei
PA-048	1116	Treatment of the Inner Surface of Trabecular-Bone-Like Structure Using Atmospheric Pressure Plasma Jet	Masato Oshiro
PA-049	1124	An Analysis on a Kinetic Motion of Optical Trapped Single Fine Particle in ar Plasma	Hiroshi Ohtomo
PA-050	1135	The Research on Microstructure and High-Temperature Tribological Behavior of AlTiN Coatings Co-Deposited by Arc Ion Plating and DC Magnetron Sputtering	Quan Zhang
PA-051	1158	Effects of Si Cluster Incorporation on Properties of a-Si thin films Deposited Using Plasma CVD	Hanvin Kim
PA-052	1245	Comparision of the the resistance of Aluminum doped zinc oxide(AZO), Gallium doped zinc oxide(GZO) and Aluminum and Gallium doped zinc oxide(AGZO) thin films depending on the hydrogen content	Soo Ho Cho
PA-053	1375	Analysis of Diamond Deposition Behavior Using Simulation Program	Chang Weon Song
PA-054	1376	Electrochemical Properties of Ti doped DLC Films by Hybrid Deposition Technique	Yeongju Jo
PA-055	1420	Nitrogen Content Effect on the Mechanical and Tribological Properties of Nanostructured TiAlVN Coatings	Hyun Jun Park
PA-056	1440	Diamond thin films Grown by Microwave Plasma CVD	Seung Kyum Kim
PA-057	1443	Fabrication of Conductive Diamond thin film by Microwave Plasma CVD	Dae Hee Yoon
PA-058	1472	Synthesis of Thin Film metallic glass by Single Target with high GFA	Hae Won Yoon
PA-059	1536	Optimization of Processing Parameters on Low Temperature Plasma Nitrocarburizing of 316L Austenitic Stainless Steel	Insup Lee
PA-060	1537	Effects of Processing Parameters on Low Temperature Plasma Nitriding of AISI 420 Martensitic Stainless Steel	Insup Lee
PA-061	1554	Preparation and Wear Performance of AlCrN/WC-12Co Composite Coatings by Combining PVD and HVOF	Kai Hu
PA-062	1574	A Protective Glass-ceramic Coating to Improve Oxidation and Thermal Shock Resistance on Steels at Elevated Temperature	Minh Dat Nguyen
PA-063	1583	Surface Properties of Sulfnitrided Layer formed on AISI4140 Steel by Plasma Nitriding	Hyun Jun Park
PA-064	1587	Effects of Nano-particles on Microcrystalline Silicon Thin Film Deposition Prepared by Plasma CVD	Yeonwon Kim
PA-065	1588	Substrate Temperature Dependence of Silicon Cluster Volume Fraction in Silicon Thin Films	Yeonwon Kim
PA-066	1589	TiN Films Deposited by PVD Method and its Corrosion Resisitance in Boric Acid for Nuclear Power Plant	Subeen Lee
PA-067	1591	Utilization of Cathodic arc Aluminum Plasma for the Production of Iron rich Aluminides on Carbon steels	Erkan Kacar
PA-068	1626	Microstructure of SiC-ZrC Composites Coating via Chemical Vapor Deposition	Hyeon-Geun Lee
PA-069	1632	Formation of Coating Films on Hot Dipped Aluminized Steel According to Current Density Conditions of Plasma Electrolytic Oxidation(PEO)	In-Hye Choi
PA-070	1633	Formation of Magnesium Thin Film on Steel Substrate by PVD Method under Various Gas Conditions, and their Corrosion Resistance	Sung-Hwa Hwang
PA-071	1636	Evaluation of the Corrosion Resistance of Various Coated Steel Sheets Using Different Types of Corrosion Testing Methods	Jae Hyeock Park

Subject G: Electronic Devices and Sensors for IoT Applications

Poster No.	Abstract No.	Title	Presenting Author
PA-072	1099	High Performance Flexible Non-volatile Resistive Switching Memory Harnessing Recombinant Protein Thin Films	Sung Kyu Jang
PA-073	1100	Chemically Converted HfO ₂ /HfS ₂ Hybrid Structure with High Quality Interface for Electronic Device Application	Shen Lai
PA-074	1183	Influence of Graphene/metal Contact Structure on the Photocurrent Generation	Tae Jin Yoo
PA-075	1184	Control of Graphene Doping Using an Interfacial Oxide Layer	So-Young Kim
PA-076	1594	Chemical Sensor with Porous Nanostructure by Thermal Evaporation	An Na Kim
PA-077	1595	Development of anti-finger coating materials on Glass	Hohyeong Kim
PA-078	1630	Fabrication of Low-dimensional Carbons/titania Nanotube Hybrid Composite via Chemical Solution Process and Their Structural and Electrical Properties	Sunghun Eom

Subject H: Functional Surface (Bio, Energy, Environment, etc.)

Poster No.	Abstract No.	Title	Presenting Author
PA-079	1095	CO ₂ Reduction Using Hybrid System of Ag-modified BDD and semiconducting n-Type TiO ₂	Yuri Hirano
PA-080	1152	Three-Dimensional Electric Micro-Grid Network For High-Energy-Density Lithium-Ion Battery Cathode	Dae-wook Kim
PA-081	1172	In Vitro Corrosion Analysis of the PEO Coated AZ91D Mg alloy for Orthopedic Implants During Pyrexia and Normal Body Temperature	Min-soo Kim
PA-082	1206	Chemical Recycling of Used Foundry Sand : Characteristic Variations in Accordance with Regenerated Foundry Sand Reuse	Kyeong Ho Kim
PA-083	1231	Self-assembled TPPs Stacking Structures Through Molecular Recognition on the Self-assembled Monolayers Modified Surface from the Aqueous Solution	Mongkol Tipplook
PA-084	1238	Molecular Dynamics Studies on Li Ion Conduction Characteristics at Grain Boundaries in Garnet-type Solid Electrolytes	Hiromasa Shiiba
PA-085	1250	Low-Temperature Preparation of LiNi _{0.5} Mn _{1.5} O ₄ /Li ₃ BO ₃ Composite Promoted by Flux Growth in Molten Glass	Shunya Hatsugai
PA-086	1252	Studies of Microstructure-depending Electrochemical Characteristics in TiN-Coated Li ₄ Ti ₅ O ₁₂ /Li ₃ BO ₃ Composite Electrodes	Taisuke Horikawa
PA-087	1254	Molecular-scale Design for LiNi _{0.5} Mn _{1.5} O ₄ Cathode/electrolyte Interfaces in 5 V-Level Lithium-Ion Batteries	Hiroshi Aso
PA-088	1255	Impacts of Fluoroalkylsilane Coating on High Voltage Durability of LiNi _{0.5} Mn _{1.5} O ₄ Cathodes Using Various Electrolytes	Hitomi Todoki
PA-089	1256	Studies of Electrochemical Impedance Spectroscopy on the Li _{6.75} La ₃ Zr _{1.75} Nb _{0.25} O ₁₂ /Li ₃ BO ₃ Hybrid Solid Electrolytes	Sakina Kaneko
PA-090	1260	Photocatalytic Water Oxidation Using Faceted Ta ₃ N ₅ Crystals Grown from NaCl-Na ₂ CO ₃ Flux	Ryota Ando
PA-091	1262	New Coating Technique for Making Garnet-type Solid Electrolyte Crystal Layers, Promoted by Crystal Growth in a Molten Salt on a Substrate	Kazune Nemoto
PA-092	1264	Growth Manner of Layered LiNbMoO ₆ Crystals from LiCl-LiOH Mixed Flux at Low Temperatures	Yusuke Sato
PA-093	1269	Flux Growth of Cubic-Li ₇ -XLi ₃ Zr ₂ -XNbXO ₁₂ Single Crystals and Characterization of their Air Stabilities	Miho Yamashita
PA-094	1282	Functionalization of Na _x Fe _{2-x} Ti _{2-x} O ₄ Crystals by Flux-mediated Ion Exchange Toward the Use of Ion Exchanger	Daiki Kawaura
PA-095	1283	Fabrication of Ni-Co Layered Double Hydroxide Crystals Using Flux-grown NaNi _{1-x} Co _x O ₂ Crystals as a Precursor	Shuhei Tamura
PA-096	1285	Flux Growth of Li ₂ SnO ₃ -Type Li ₂ (Ti/M)O ₃ (M = Y, Zr, Nb) Crystals and their Strontium Ion Exchange Properties	Taichi Sakamaki

PA-097	1371	Flux Growth of whiskery $\text{Na}_2\text{Ti}_3\text{O}_7$ Crystals with $>50 \mu\text{m}$ in Length from NaCl Based Fluxes	Erika Wada
PA-098	1437	Atomic Layer Deposition of TiO_2 thin films on Polymer-based Materials for Biomedical Applications	Rodrigo Pessoa
PA-099	1465	Engineering Properties and Microstructural Control of Constituent Phases for Biodegradable Mg-alloys	Hye Sung Kim
PA-100	1505	Functional Hydroxyapatite Precipitates on the Ti-6Al-4V Alloy by Electrochemical Methods	Ji-Min Yu
PA-101	1514	Corrosion Behaviors of Functional Hydroxyapatite Coatings on the Ti-6Al-4V Alloys	Min Gyu Park
PA-102	1515	Formation of Bone-like Apatite after Functional HA Coating on Ti-6Al-4V Alloy	Sang-Gyu Lim
PA-103	1634	Electrochemically Functional Material Coatings on the PEO-treated Ti-6Al-4V Alloy	seung-pyo Kim
PA-104	1527	Characteristics of BDD electrodes deposited on Ti substrate with TiN interlayer	Shin Kim
PA-105	1528	Thermoelectric Properties of Amorphous IZO thin films and Crystalline ITO thin films	Seohan Kim
PA-106	1567	Site-selective Assembly of AuNPs on Alkylsilane Self-assembled Monolayer with Preventing Defects and Dehydration	Jeonghyeon Yang
PA-107	1592	Ballast Water Treatment Using a Electrolysis	Jongbeom Choi
PA-108	1627	Development of Nanobead Multilayer-based Sensitive Immunoassays on Plastic Surfaces	Daekyung Sung
PA-109	1628	Development of Epoxide-containing Antibiofouling Polymers for Immobilization of Biomolecules onto Various Surfaces	Daekyung Sung

Subject I: Micro/Nano Fabrication Technology

Poster No.	Abstract No.	Title	Presenting Author
PA-111	1009	The Fabrication of Multicolor Electrochromic Device Based on Graphene Conductive Ink/Poly(Lactic Acid) Thin Films By Voltage-step Method	Achanai Buasri
PA-112	1028	Creep Properties of Squeeze Infiltrated Hybrid Aluminum Borate Whisker + Carbon Nanotube/AS52 Composites	Sang Hyun Park
PA-113	1059	Molecular Self-assembly via Photo-thermal Effect	Hyeong Min Jin
PA-114	1069	Colorless and Transparent Copolyimides and their Nanofabrications	Ji Hoon Choi
PA-115	1072	Complex 3D Multimetal Nanomesh Patterns via Block Copolymer Self-assembly	Seung Keun Cha
PA-116	1142	Fabrication of Ultra-high Density Plasmonic Au Nano Hole Array via a Non-lithographic Method	Soonmin Yim
PA-117	1164	Direct Laser Writing of High-quality Porous Carbonized Polyimide Film with a Chamber	Yong-Won Ma
PA-118	1207	Synthesis of Metal Nanoparticle in Metal-Organic Framework Using Amine-Borane as Vapor-Phase Reduction Agent	Yasushi Sato
PA-119	1210	A Study on Surface Modification of Brass Substrate by 355nm Pulsed Laser	Dongbin You
PA-120	1305	Nano Crystallization Behavior of TiO_2 Added Diopside-based Glass-ceramics	Soobin Park
PA-121	1422	Microstructure and Mechanical Properties of Fe-14Cr ODS Steel Mechanically Alloyed with Enhanced Energy	Eun kwang park
PA-122	1459	Micro Structure and Electrical Property Analysis of Manganese Aerogels with 3D Network Structure	Jeong Yun Kim
PA-123	1461	Effect of Al Infiltration on Materials Properties of $\text{Ti}_2\text{AlC}/\text{Al}$ Composites Fabricated by Spark Plasma Sintering Method	Dong Jin Lee
PA-124	1468	Microstructure and Mechanical Properties of AA1050/AA6061 Hybrid Aluminum Sheet Fabricated by Roll Bonding Process	Seong-Hee Lee
PA-125	1502	Wide Thermal Annealing System and its Effects on ITO and IGZO Thin Films	Sejong Seong

PA-126	1522	Fabrication of TiN(II) Sulfide Using Carbon and Calcium Sulfide	Jeil Pil Wang
PA-127	1530	One-pot Synthesis of Carbon Layers on Cu-Ni Alloy Nanoparticles by Electrical Wire Explosion	Jun-Hyeok Lee
PA-128	1532	Short Channel Solution-processed ZnO TFTs	Yesul Jeong
PA-129	1646	Anti-condensing, Thermally-insulating, and Self-cleaning Glass by Supersonic Spraying of Silver Nanowires, Silica, and Polystyrene Nanoparticles	Tae-Gun Kim

Subject J: Multifunctional Thin Film Design

Poster No.	Abstract No.	Title	Presenting Author
PA-130	1056	Influence of Frequency on Microstructure and Properties of Diamond-like Carbon Coatings	Wei Dai
PA-131	1240	Facile Synthesis of Atomic Structured Al ₂ O ₃ /Carbon Composite Films Deposited by Molecular Layer Deposition Method	Seunghwan Lee
PA-132	1545	The Microstructure and Wear Performance of Cr/CrN Multilayer Coatings with Different Periodicities on Ti-6Al-4V	Mohan Chen
PA-133	1552	Deposition of Ti-Ni Shape Memory Alloy Thin Films Formed by Magnetron Sputtering	Joohyeon Bae
PA-134	1576	The Study of SiC Thin Film Coating for Improving Oxidation Resistance of Carbon Composites	Ahn Subin

Subject K: Nano-bio Technology on Interfaces

Poster No.	Abstract No.	Title	Presenting Author
PA-135	1463	Fabrication of Nanoporous Oxides by Direct-burnout-process	Dayoung Yoo

Subject L: Processing and Applications of Advanced Materials (Cutting, Welding, Laser, EDM)

Poster No.	Abstract No.	Title	Presenting Author
PA-136	1301	Thermal Properties for Sintering Condition and Addition of ZrO ₂ in CMS Glass-ceramics	Dayoung Lee
PA-137	1302	Study of Fresnoit Glass-Ceramic according to the Crystallization Schedule For Optical Properties.	Min Junki
PA-138	1307	A Study on the Consideration of Mechanical Strength of Metakaolin Based Geopolymers with and without Preuring Process	Byeong Guk Kang
PA-139	1401	Titanium Carbide Powder Fabricated by Carbothermal Reduction of Titanium Hydride Powder	Dongwon Lee
PA-140	1447	Formability of Cfrp Seat Cross Manufactured by Vacuum Assisted Resin Transfer Molding Process	Kun Young Kim
PA-141	1452	Development of High Voltage Switch Using Poly Tetra Fluoro Ethylene for Powerplant and Substation	Hyung Wook Yi
PA-142	1454	Microstructure Changes During Magnetic Pulse Welding of Al 1050 Sheet Alloys	JunWoo Song
PA-143	1455	Process Condition Monitoring Using Cavity Pressure and Temperature Sensors in High Pressure Resin Transfer Molding Operation	Beom Jeong Han
PA-144	1460	Effects of Included Surfactant and Carbon Nanotubes of Electroplated Nickel-based Diamond Coating Tool	Yong Moon Lee
PA-145	1511	Development of Multi-compaction Technique of Dissimilar Fe-based Alloys for Fabrication of Hybrid P/M Components	Min Chul Oh
PA-146	1512	Nanoscale Precipitation Behavior of Extruded and Forged ZK60 Magnesium Alloy During Aging Treatment	Min Chul Oh
PA-147	1513	Correlation between Microstructure and Thermal Properties of Al-CuO Nanocomposite Powder Fabricated by Cryomilling	Minseok Oh

PA-148	1524	Effect of Tool Profiles on Microstructures and Mechanical Properties of 5052 H32 Aluminum Alloy Using Micro Friction Stir Welding Process	Young Chan Park
PA-149	1543	Life Evaluation of Ultra High Strength Steel Std11 of 1.5gpa Grade Using Shear Press Die	Jae Young Heo
PA-150	1546	Surface Characteristics from Powder Feeding Conditions during Laser Cladding in the Use of Diode Laser	Su Han Park
PA-151	1547	A Study on Undercut Control during Laser-arc Hybrid Welding	Gi Hoon Myoung
PA-152	1551	Microchannel Machining of Multi-functional Ti ₂ AlN Bulks Ablated by Femto-second Laser Irradiation	Ki Ha Hwang
PA-153	1570	Surface Hardening Characteristics on Pinnacle Edge Region Though Diode Laser Heat-treatment Process of Flexible Fine Die	Ki Taek Ryu
PA-154	1571	Fem Analysis and Performance of Synchronized Permanent Magnet Air Bearing for High Power Spindle	Bong Rae Cho
PA-155	1649	Ergonomic Shell Design of Bulletproof Helmet for New Generation Solders	Yong Moon Lee

Tuesday Afternoon Poster Sessions

Nov. 7, 2017

(Time: 12:40 p.m. - 2:20 p.m.)

Room: Poster

Poster Session (Nov. 7, 2017)

Subject M: Allied Surface Science, Analysis and Properties, etc.

Poster No.	Abstract No.	Title	Presenting Author
PB-001	1035	Microstructural and Mechanical Characteristics of CVD SiC Ceramics as a Function of Grain Growth Behavior	Jung Ho Shin
PB-002	1061	In-Situ Heat Treatment Studies of the Nanocrystalline Cr ₂ O ₃ Film Using an Environmental Scanning Electron Microscope	Tie-Gang Wang
PB-003	1081	Influence of Cu-content on the microstructure and mechanical properties of Cr-Cu-N coatings prepared by co-sputtering process	Jicheng Ding
PB-004	1259	Effect of Composition of Molybdate Fluxes on Crystalline Phase in Flux Growth of NaTaO ₃ Crystals	Haruka Saito
PB-005	1277	Microstructure and High-temperature Tribology of Si Doped Diamond-like Carbon Coatings Deposited by a Hybrid Sputtering System	Teng Fei Zhang
PB-006	1278	Influence of Temperature and Pressure on Aging Behavior	Kotaro Mori
PB-007	1279	Influence of Trace Element Additions on Mechanical and Thermal Properties of AZX612 Magnesium Alloy	Taejun Kim
PB-008	1280	Microstructure Evolution Responsible for Thermal Fatigue Behavior of Al-Si-Mg Casting Alloys	Yunsoo Lim
PB-009	1431	Field Emission Property of Carbon Nitride Synthesized by Pulse Microwave Plasma CVD	Ippe Tanaka
PB-010	1433	Removal of Oxides on SUS304 Stainless Steel by Multiple Ultrasonic Impact Treatments	Liang Li

Subject N: Biomimetic Hybrid Materials and Technology

Poster No.	Abstract No.	Title	Presenting Author
PB-011	1193	Enhanced Osteodifferentiation of MC3T3-E1 Preosteoblasts by Synergy of Dicalcium Phosphate And Graphene	Jun Jae Lee
PB-012	1477	Novel Fabrication Process of Micro-sized Calcium Phosphate Beads	Kyubin Byun
PB-013	1557	A Study on the Stiffness Control of Hybrid Composite Material Reinforcing	Dae Eun Moon
PB-014	1474	Fabrication and Evaluation of Bioactivity and Microstructure Properties of Calcium Phosphate Scaffolds at Various Temperatures.	Naren Raja

Subject O: Characterization, Evaluation and Reliability

Poster No.	Abstract No.	Title	Presenting Author
PB-015	1136	Damage Evaluation of GFRP Plate Using Shearography by Impact Velocity	Hee Seong Kim
PB-016	1489	Porosity Control of Multifunction Geopolymer Foam	Taro Utsumi
PB-017	1499	Rheological Property of Ceramic Slurry in Direct Foam Process	Mina Kim
PB-018	1516	Effect of Annealing Temperature and Cooling Rate on Corrosion Evaluation of Super Duplex Stainless Steel UNS S 32750	Byung-Hyun Shin

PB-019	1569	Characteristics of Z2-FET : Capacitorless 1T-DRAM Device	Sehyun Kwon
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Subject P: Electronic and Optical Applications

Poster No.	Abstract No.	Title	Presenting Author
PB-020	1016	Simulation of Light Intensity Uniformity and Thermal Characteristics According to Chip Spacing and Detector Distance in 5X5 Array Structure of 305nm Wavelength UVLED	Hyungdo Yoon
PB-021	1071	Preparation of Diamond Nanoparticles for Single Photon Emission	Hwan Young Kim
PB-022	1085	Morphology Control of Perovskite Films via Moisture Pre-treatment and Hot-air Annealing Process for Efficient Solar Cells	Insoo Shin
PB-023	1086	Efficient Wide Band Gap Polymer for High Efficiency Binary and Ternary Solar Cells Using Pyrrolo[3,4-c]pyrrole-1,3-dione-based Alternating Polymer	Jihoon Lee
PB-024	1087	Merged Annealing Growth of Single-crystal-like Perovskite Film for Efficient Solar Cells	Yanliang Liu
PB-025	1093	Development of P-type Hydrogenated Microcrystalline Silicon Oxide Layer to Apply to Semi-transparent Solar Cells	Jo-Hwa Yang
PB-026	1138	Microstructural Change and Textural Evolution of Nb and Cu Layer in Superconductive Mg-B/Nb/Cu Cladding Fabricated by Hydrostatic Extrusion	Jongbeom Lee
PB-027	1139	Influence of Deformation Rate on Mechanical and Microstructural Properties in Al/Cu Cladding Processed by Caliber Rolling	Jongbeom Lee
PB-028	1171	Electrode-evaporation of Vertical-type in GaN LED	Sung Geun Bae
PB-029	1174	Mg Doped-AlN Epilayer Grown by Mixed-source HVPE	Injun jeon
PB-030	1180	Hype Growth of High Al Composition AlGaN Epilayers for the High Power Semiconductor Devices	Injun jeon
PB-031	1226	The Effect of Charge Compensation on the Luminescence Behavior of Eu ³⁺ -doped Perovskite CaZrO ₃ Red Phosphor	Yeon Woo Seo
PB-032	1251	Characterization of CuS Nanoparticles Decorated with Platinum Catlaysts on Photo-catalyst	HyeLan An
PB-033	1294	A Turn-on Fluorescence for Cadmium(II) Ions Based on Methylacrylol Amine Derivatives	Prawonwan Thanakit
PB-034	1389	Influence of Bi ³⁺ -doping on spinel cobalt ferrite for magnetic recording and memory devices.	Umakant Tumberphale
PB-035	1471	Fabrication of Cu-doped β -Ca ₃ (PO ₄) ₂ and its Photoluminescence Property.	Masaya Nakata
PB-036	1490	Annealing Effects of SnS Thin Films Deposited by RF Magnetron Sputtering	Donghyun Hwang
PB-037	1493	Substrate Temperature Effects on the Properties of RF-Sputtered SnS Thin Films	Kiwon Nam
PB-038	1497	Evaluation of Terahertz Spectroscopy on Hot Pressed AlN Doped Y ₂ O ₃	Sang-Yeup Park
PB-039	1498	Preparation and Characteristics of a Composite Paste Composed of Submicron Cu@Ag Particles and Ag INK	Woo Lim Choi
PB-040	1509	Impact of Sm ³⁺ ions on structural and magnetic properties of nano crystalline Co-Zn ferrites	Anil Mugutkar
PB-041	1529	Characteristics of ITO/Ag/ITO and IZO/Ag/IZO Multilayer thin films Prepared by Magnetron Sputtering for Flexible Transparent Film Heaters	Pin Zhao
PB-042	1531	Influence of Sintering Temperatures on Y ₂ O ₃ :R(R=Yb ³⁺ , Er ³⁺ , Tm ³⁺) Nanophosphors	Hyeon Mi Noh
PB-043	1585	Optical Properties of Rare-earth Co-doped CaTiO ₃ Based Red Phosphors	Kubra Sade
PB-044	1625	Fabrication of Refractive Index Tunable Metamaterial by Block Copolymer Self-Assembly	Kyu Hyo Han

Subject Q: Health Care and Diagnostic Applications

Poster No.	Abstract No.	Title	Presenting Author
PB-045	1015	Simulation of Brightness Uniformity Characteristics of UV-C Ultraviolet Semiconductor Light Source Chip According to Array Spacing for Efficient Application to Engine Structure Sterilization Module	Hyungdo Yoon
PB-046	1106	Synthesis of Iron Based Fluorescent Nanomaterials in Aqueous Solution	Junyoung Kwon
PB-047	1424	Antimicrobial Activity of Sol-gel-auto-combustion Mediated Zinc Ferrites	Ambadas Kadam
PB-048	1559	Fabrication of Blood Coagulability Polycaprolactone/ β -chitosan Nanofiber	Jae-Seong Jeon

Subject R: Hybrid Interfaces of Information, Display and Energy Materials

Poster No.	Abstract No.	Title	Presenting Author
PB-049	1053	Effect of Thickness on Flexible, Electrical and Optical properties of Ti- ZnO films on Flexible Glass by Atomic Layer Deposition	Woo-Jae Lee
PB-050	1446	Improving Catalytic Activity of Cobalt Cluster in C ₂ N-h ₂ D for Hydrogen Evolution Reaction: A First-principles Study	Min Jong Noh
PB-051	1491	Effect of Gamma Irradiation on Supercapacitor Performannce of Zinc Ferrite	Siddheshwar Raut

Subject S: Interface Modification and Applications

Poster No.	Abstract No.	Title	Presenting Author
PB-052	1020	Mechanical and Thermal Properties of Epoxy Composites Containing Zirconium Oxide Impregnated Halloysite Nanotubes	Moon il Kim
PB-053	1054	Improved Corrosion Resistance and Mechanical Properties of CrN Hard Coatings with an Atomic Layer Deposited Al ₂ O ₃ Interlayer	Zhixin Wan
PB-054	1055	Enhanced Corrosion Resistance of PVD-CrN Coatings by ALD Sealing Layers	Chang-Min Kim
PB-055	1112	The Effects of the Discontinuous Precipitation and Additional Elements on the Mechanical and Electrical Properties of Cu-Ti Alloys	Min Ah Jo
PB-056	1149	Aptamer-functionalized Plasmonic Nanostructures for SERS-based Multiplexing of Trace-amount Drinking Water Pollutants	Seunghee Cho
PB-057	1316	Formation of Intermetallic Phases on Boron Steel Hot Dipped in Al-7Mn Alloy	Sungyun Kwak
PB-058	1393	A Giant Cluster Cored Hybrid Micelle for in Vivo Nir-triggered Photothermal-chemotherapy	Zhang Simin
PB-059	1425	What is the band offsets of PANI/ZnS/ZnO Heterojunctions?	Amine Brayek
PB-060	1566	Characteristics and Dispersibility of Zirconia Nanoparticles with Precursor	Heeseon Lee
PB-061	1575	Study of Hybrid Ceramic Composites for Anti-corrosion	Jung Won Bang
PB-062	1579	Effects of Irradiation Atmosphere on Vacuum Ultraviolet-Induced Surface Modification of Cyclo-Olefin Polymer Substrates	Young Jong Kim
PB-063	1586	Inhibition of Dewetting Behavior of Thin Polystyrene Film by Using Zinc-oxide Nanoparticles	Nampueng Pangpaiboon
PB-064	1598	Comparison of the Properties of Poly(Vinyl Alcohol) Nanocomposites Containing Three Different Nanofillers: Pristine Clay, Organoclay, and Functionalized Graphene	Jin-Hae Chang

Subject T: Nanomechanics for Advanced Materials

Poster No.	Abstract No.	Title	Presenting Author
PB-065	1235	Enhancing Moisture Stability via Modulating Methoxy Substituents of Spiro-OMeTAD as Hole Transport Material for Perovskite Solar Cells	Ye-Seol Ha
PB-066	1310	The Effect of Nano-crystalline and Thermal Conductivity with Nucleation Agent of ZnO-Al ₂ O ₃ -SiO ₂ Glass-ceramics for LEDs and OLEDs	Su Bin Kyeong

Subject U: Next Generation Energy Storage and Conversion

Poster No.	Abstract No.	Title	Presenting Author
PB-067	1010	Platinum-free Counter Electrodes Comprised of Polypyrrole-graphene Composite	Vorrada Loryuenyong
PB-068	1057	Atomic Layer Deposition of ZrSiO ₄ and HfSiO ₄ Thin Films using a newly designed DNS-Zr and DNS-Hf bimetallic precursors for high-performance logic devices	Da-Young Kim
PB-069	1066	Unravelling the Correlation between NiO Nanosheet Properties to Heating Time as Advanced Positive Materials for High-Performance Supercapacitors	Damin Lee
PB-070	1074	High Energy Density Graphene-Polymer Fiber Supercapacitors	Suchithra Padmajan Sasikala
PB-071	1076	Homogeneously Ordered Morphologies to Reduce the Gap between the Anode and Cathode of Asymmetric Hybrid Capacitors with High Energy Density	Il woo Ock
PB-072	1077	High-Performance Asymmetric Supercapacitors Based on Sub-nanoscale Metal Oxide Particles through Lithiation-Induced Rescaling	Jae Won Choi
PB-073	1082	Nitrogen-doped Carbon Derived from Waste Paper with Nitrogen Source for EDLCs	Da Sol Jeong
PB-074	1089	3D Porous NiS as Advanced Electrode for High Performance Supercapacitor	Qixun Xia
PB-075	1119	Carbon Recycling Using Low Temperature Plasma with Activated Catalysts	Satoshi Tanida
PB-076	1134	Multi Phase Mn-based Nanocomposite Material Prepared by Oxidation Reaction for Li-ion Batteries	Jeonggeun Jo
PB-077	1156	A Study on the Synthesis of Carbon Black-silicon Composite for Lithium-ion Battery Anode Material and the Effect of Preventing Volume Expansion of Silicon by Void-space of Carbon Black	Hanvin Kim
PB-078	1165	Synthesis of Hierarchical Micro/Mesoporous Carbon Foams by Solution Plasma Process for Use in Supercapacitors	Jianjian Fu
PB-079	1166	Solution Plasma Synthesis of Nonprecious Metal Catalyst with Mesoporous Nanocarbon for Oxygen Reduction Reaction	Hanvin Kim
PB-080	1203	Supercapacitive Properties of Nickel Aluminium Layered Double Hydroxides Nanosheets as Advanced Electrode Materials	Lei Li
PB-081	1243	Studies of Thermoelectric Transport Properties of Atomic Layer Deposited Gallium-Doped ZnO	Seong-Jin Choi
PB-082	1247	Optimization for CdSe Nanocrystals with a Microfluidic Reactor Synthesized by a Combinatorial System	Leeseung Kang
PB-083	1297	Na ₃ V ₂ (PO ₄) ₃ -Ni ₂ P Nanocomposite as Novel Cathode materials for Sodium-Ion Batteries	Seulgi Lee
PB-084	1299	Layered-type Li _x (Ni _{1/3} Co _{1/3} Mn _{1/3})O ₂ Cathodes via a Simple Room Temperature Redox Synthetic for Rechargeable Li-ion Batteries.	Sohyun Park
PB-085	1304	Understanding the Suppression of Oxygen Gas Evolution through Gas Chromatography Investigation	Seokhun Kim
PB-086	1378	The Unique Crystallographic Rod-shape of FCG(Full Concentration Gradient) Cathode Material with Long-Term Cycling Stability for Electric Vehicles Application	Un-Hyuck Kim
PB-087	1379	Structural Stability of LiNiO ₂ at Different Cut-off Voltages	Do-Wook Jun
PB-088	1388	Bismuth Ferrite Active Electrodes for Supercapacitor Application	Shyam Gore

PB-089	1427	Wet-chemical Synthesis and Dye-sensitized Solar Cell Application of TiO ₂ Nanoparticles Obtained from Phellinus -mushroom Extract	Satish Ekar
PB-090	1457	Electrochemical Properties of LiMn ₂ O ₄ Cathode Materials Synthesised by Two Steps Hydrothermal Method	Jong-Pil Kim
PB-091	1458	Low Temperature Thermo-compression Bonding with Hybrid Ag Paste for Pb-free Die Attach	Min-Su Kim
PB-092	1492	Dye Sensitized Solar Cells: D-Sorbitol Induced Phase Control of TiO ₂ Nanoparticles	Shoyebmohamad Shaikh
PB-093	1535	The Glucose Reduction of Graphite Oxide for Counter Electrodes in Dye-sensitized Solar Cells	Vorrada Loryuenyong
PB-094	1549	Enhancement of the Hydriding and Dehydriding Rates of Mg by the Addition of TaF ₅ and VCl ₃ with Reactive Mechanical Grinding	Young Jun Kwak
PB-095	1550	Halide and Nickel-added Mg for Hydrogen-storage Prepared by Phase Transition-accompanying High-energy Ball Milling Processing and Comparison with Metals and Fe ₂ O ₃ -added Mg	Young Jun Kwak
PB-096	1553	Development of the Integrated System (D.D.I, Spinning, Filament Winding, Curing Processes) for Manufacturing the High Pressure Vessel (Type II)	Hyo Seo Kwak
PB-097	1599	High Volumetric MXene Supercapacitor using Simulated Seawater Electrolyte	Qi Xun Xia

Subject V: Sorption and Catalytic Applications

Poster No.	Abstract No.	Title	Presenting Author
PB-098	1022	The Catalytic Application of ZIF-8 in Epoxy Compositions	Mi Ri Kim
PB-099	1060	MOF-205: A Zinc Based Dual-porous Metal-organic Framework for the Chemical Fixation of CO ₂ via Cyclic Carbonate Synthesis	Dae-Won Park
PB-100	1078	Transformation of CO ₂ to Cyclic Carbonate with a Porous	Hyeon-Jun Kim
PB-101	1079	Dual-porous Aluminum Based Metal Organic Framework CYCU-3	Gak-Gyu Choi
PB-102	1092	Post-modification of Mesoporous Mil-101 With Brønsted Acid and its Sorption Characteristics	Ga-Young Cha
PB-103	1143	Structure Determination of Novel Aluminophosphate Synthesized Using Diethylamine as Structure Directing Agents	Shuai Chang
PB-104	1161	Decontamination of Chemical Warfare Agents by electrospun MOF nanofibers.	Eun Jin Bae
PB-105	1181	Cu(I)-chelated Nitrogen-rich Porous Organic Polymer for Adsorptive CO/CO ₂ Separation	Jung Woon Yoon
PB-106	1186	Seed Assisted Synthesis of Magnetic Fau-Type Zeolite and its Adsorption Performance	Takeshi Hagio
PB-107	1189	Exfoliated RuO ₂ Nanosheets as a Promising Hybridization Matrix for Enhanced Photocatalyst Functionality	Jang Mee Lee
PB-108	1196	Tailoring the Gas Adsorption Property and Stability of Metal-Organic-Framework by Addition of Inorganic 2D Nanosheets	Yun Kyung Jo
PB-109	1242	A Promising Approach in Enhancing Water Adsorptivity of Metal-organic-framework Upon Hybridization with Layered Double Hydroxide Nanosheet	Haslinda Binti Mohd Sidek
PB-110	1257	Highly Improved Methane Delivery Capacity of HKUST-1 by a Novel Ligand-fragment Co-assembly Method	Jo Hong Kang
PB-111	1367	Synthesis of Magnetite Incorporated Epoxy Resin-derived Magnetic Activated Carbon	Supinya Nijpanich
PB-112	1391	Preparation and Application of Calcined Marlstones / Rice Husk Ash Catalyst for Biodiesel Production	Achanai Buasri
PB-113	1439	Improved NO _x Removal Efficiency of SCR Catalyst by Using RGO Support	Minwoo Lee
PB-114	1606	N-doped Large Graphene Oxide Oxygen Reduction Reaction Catalysis via Size Selection	Sung Hwan Koo
PB-115	1624	Fiber Type Molybdenum Sulfide/Graphene Hydrogen Evolution Catalyst	Kyungeun Lee

Subject W: Wet Process (Electro- & Electroless Platings, Anodizing, Hot dipping, Solution Plasma, etc.)

Poster No.	Abstract No.	Title	Presenting Author
PB-116	1088	Formation of intermetallic phases hot-dipped in Al-7Ni coating on boron steel	Jae hyeong Lee
PB-117	1113	Synthesis of a Gold-Nanoparticle-Containing Polymer Membrane on Aqueous Solution	Shiori Azuma
PB-118	1114	Water Treatment Using Micro-bubble Assisted Three Dimensionally Integrated Micro Solution Plasma	Hiroto Masunaga
PB-119	1115	Analysis of Reactive Oxygen Nitrogen Species in Air-plasma Treated Water	Shoma Miyamoto
PB-120	1126	PEFC Cell Performance of Hetero-nanocarbons as Pt-less and Pt-free Catalysts Synthesized from Anthocyanins by Solution Plasma	Kazuo Hashimi
PB-121	1144	Analysis of Radicals in Solution Plasma Used for Hetero-Nanocarbon Synthesis	Maria Antoaneta Bratescu
PB-122	1167	Fabrication of Metallic Thin Films on Resin Substrate by Photoinduced Reduction Process	Ryo-suke Fujiwara
PB-123	1178	The Structure and Properties of Nanocarbons-encapsulated WC Synthesized by Solution Plasma in Palm Oils	Md. Zahidul Islam
PB-124	1191	The Initial Reactions from Pyridine to Hetero-carbon Nanomaterials through Solution Plasma	Kyu-Sung Kim
PB-125	1201	Effect of Homogenization Heat Treatment of Al-Mg-Zn Alloys to Prevent Stress Corrosion Cracking	Yoo Shin Jo
PB-126	1220	The Nano-structure and their Properties of Exfoliation Several Layers-stacked Graphene Prepared from Graphite Dispersed in Aqueous Solutions by Solution Plasma.	Sangwoo Chae
PB-127	1221	Reactions and their Intermediates on the Synthesis of Hetero-graphene Synthesized by Solution Plasma Process from Pyrrole, Pyridine, and Aniline	Yukihiro Muta
PB-128	1327	Room-temperature Chemical Synthesis of Bi ₂ O ₃ Nanoflakes for Assembling Pencil-type Asymmetric Electrochemical Supercapacitor Device	Saurabh Singh
PB-129	1365	Effect of Molybdenum Addition on Structure and Corrosion Resistance of Zinc-Iron Plating	Daichi Kosugi
PB-130	1366	Electrodeposition of Copper / Carbonous Nanomaterial Composite Coatings for Heat Dissipation Materials	Yasuki Goto
PB-132	1395	Ultrasound Induced Fibrillation of Polyoxometalate Hybrid Complex Contained Pillar[5]arene	Zhang Guohua
PB-133	1405	Effect of PTFE Composite Coatings on self-Lubricating Behavior and Efficiency on Metal mold of Al alloy	YoungMin Byoun
PB-134	1415	Adhesion Enhancement of Electrodeposited Copper on Polyimide/PET	Seokbon Koo
PB-135	1432	High-Temperature Corrosion of Aluminized Fe-25.8 %Cr-19.5 %Ni Alloys in N ₂ /H ₂ S/H ₂ O-Mixed Gases	Minjung Kim
PB-136	1469	A Transparent Electrode Based on a Long Metallic Nanowire	Changmyeon Lee
PB-137	1473	Surface Modification of Various Polymer Films by Using UV Irradiation for Adhesion Enhancement of Cu Electroless Plating	JunMi Jeon
PB-138	1475	A Study about Adhesion Characteristics of the Electroless Palladium Immersion Gold(EPIG) surface Treatment	Jin Young Hur
PB-139	1487	Metalization of Cyclo Olefin Polymer Fiber Using UV Irradiation	Koji Kutsunai
PB-140	1504	Preparation of Magnesium Particles by Pulsed Wire Discharge in Liquid Media	Kenta Tanaka
PB-141	1561	Seawater Sterilization for BWMS by Solution Plasma	jongbeom choi
PB-142	1562	Formation of Iron Carbide/Sulfide Nanoparticles on Nitrogen-sulfur Doped Carbon Nanosphere as an Efficient Catalysts for Oxygen Reduction Reaction	Dae-wook Kim
PB-143	1600	Precipitation of Noble Metals on Visible-light Responsible Titania Nanotubes by H ₂ O ₂ Treatment and their Properties	Yuto Yamasaki
PB-144	1601	The Formation of Calcareous Deposit under Cathodic Protection by Using Waste Oyster Shell.	Jeonghyeon Yang

PB-145	1635	Solution Plasma-assisted Green Synthesis of Porous MnO₂: Efficient Removal of Cationic Pollutants from Aqueous Solution	Hyemin Kim
PB-146	1656	Gelatin/PVA Scaffold Fabricated Using Low Temperature 3D Printing for Hard Tissue Regeneration	Minseong Kim
PB-147	1657	Fabrication of biomimetic 3D model composed of gelatin and bioceramic using multi nozzle 3D printing system for bone tissue regeneration	WonJin Kim